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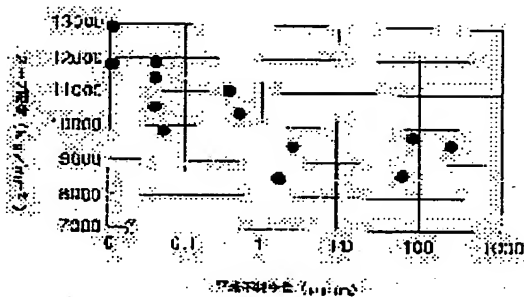
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(54) SUPERHIGH PRESSURE GENERATING DIAMOND ANVIL

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a superhigh pressure generating diamond anvil which is hardly broken even when a superhigh pressure of 100 GPa is generated and free from luminescence, abrasion, etc., when irradiated with a laser beam.

SOLUTION: This superhigh pressure generating diamond anvil is formed of a diamond single crystal synthesized by the temp.-difference process under high pressure and contg. ≤ 3 ppm impurities. In this case, the tip (superhigh pressure generating part) of the anvil does not include a crystal defect, and the angle between the $\langle 001 \rangle$ direction of a synthetic diamond crystal and the pressurizing direction of the anvil is controlled to $\leq 3^\circ$. The synthetic diamond single crystal is preferably free of a linear dislocation parallel to the $\langle 101 \rangle$ direction.



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